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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,082	07/30/2003	Zhinong Ying	9342-101	8472
20792	7590	06/02/2005	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC				PHAN, THO GIA
PO BOX 37428				ART UNIT
RALEIGH, NC 27627				PAPER NUMBER
				2821

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/630,082	YING ET AL.	
	Examiner	Art Unit	
	Tho G. Phan	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 January 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 9, 10 and 12-27 is/are allowed.
- 6) Claim(s) 1-8 and 11 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/27/05.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4-5 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Dufosse et al (US 2003/0068987) [newly submitted by Applicant].

Dufosse et al in figures 1-5 disclose an acoustic channel 31 formed of substrate material 43, the acoustic channel having a wall with an enclosed space (cavity) and an associated length and width, the acoustic channel adapted, during operation, to guide the output of a speaker 30 (paragraph 0011, 0040, and figure 5) to a target location (see arrow of the sound); and an antenna 40 that is integrated with the acoustic channel 31, wherein the acoustic channel is formed of a substrate material 43 that is non-conductive and wherein the antenna comprises a conductive element 42 formed on and/or in a portion of the wall of the acoustic channel (figure 2b), and wherein the speaker 30 in communication with the acoustic channel 31, wherein at least a portion 46,47 of the conductive element is conformal to the shape of a portion of the acoustic channel wall (figure 2a), the housing 10 configured to enclose a transceiver that transmits and receives signals (paragraph 0005 to 0007), and the acoustic channel 31 having a wall

with an enclosed space (cavity) and an associated length and width with opposing first and second end portions (any protruding end portions of the channel, see figure 2a).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dufosse et al in view of Birnbaum et al (6,496,149).

Dufosse et al has been discussed above but fail to teach a dielectric resonant antenna. However, Birnbaum et al in figures 1a-c shows a dielectric resonant antenna 105. It would have been obvious to provide a dielectric resonant antenna as taught by Birnbaum et al for the purpose of improving the antenna gain.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dufosse et al in view of Kivela (6,005,525) and Wakui et al (6,693,596).

Dufosse et al has been discussed above but fail to teach a planar inverted antenna. However, Kivela in figures 4-7 shows a planar inverted antenna 40. It would have been obvious to provide a planar inverted antenna as taught by Kivela for the purpose of providing the radiation to the side of the ground plane is small (col.5, lines 17-35).

Regarding to the specific bands of operation as claimed. The "secondary reference" of Wakui et al in figures 8-18 is good to cite as evidence of obvious of a GPS antenna 4 having a length of $\frac{1}{4}$ wavelength (col.7-8, lines 41+). Antennas and their elements are routinely "frequency scaled" and thus claims limitations are obvious design choices of wide bandwidth and matching variation with frequency as of interest.

Allowable Subject Matter

6. Claims 9-10 and 12-27 are allowed.

7. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 1/27/05 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho G. Phan whose telephone number is 571-272-1826. The examiner can normally be reached on (M-R), Monday-Thursday (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tho G. Phan
Primary Examiner
Art Unit 2821